

## EDUCATIONAL EXPERIENCE

# USING SMARTPHONE APPLICATIONS TO ADMINISTER THE EDUCATIONAL PROCESS

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## ABSTRACT

**Objective:** This study aimed to assess the extent to which teachers in the Zarqa Governorate use smartphone applications to administer the educational process within schools. **Methods:** To accomplish the aims of the investigation, the researcher employed a descriptive research design and utilized a quantitative approach, depending on the questionnaire as the primary instrument for data collection. The research was carried out on a sample of 230 educators, comprising both male and female individuals, from the Zarqa Governorate. The participants were chosen using a random selection technique. **Results:** The findings of this study suggest that the integration of smartphone applications in educational management is influenced by various factors, including managing the teaching process, the evaluation process, student affairs, and employee affairs. The findings suggest that there is no statistically significant variation in the extent of smartphone application usage for educational management in schools within the Zarqa Governorate while taking into account the variables of gender and level of qualification.

## KEY WORDS

Employing Smart Phone Applications, Administer the Educational Process, Zarqa Governorate.

## INTRODUCTION

Educational institutions are actively pursuing scientific and technological advancements, necessitating the need for robust and progressive administrative systems that can effectively adapt to and leverage these developments while addressing associated issues (Al-Adwan et al., 2018). Contemporary technology, encompassing various devices and software applications such as computers, smart tablets, and mobile phones, has significantly accelerated administrative and educational processes across public and private domains. This technological advancement has yielded numerous benefits, facilitated the attainment of objectives and expedited the completion of diverse tasks with remarkable efficiency and ease (Al-Huneini et al., 2020).

Educational institutions are presently confronted with numerous challenges and transformations that exert pressure on their standards, productivity, and efficacy. The phenomenon of the knowledge explosion is characterized by a significant increase in both the quantity and quality of knowledge across multiple disciplines (Chuchu & Ndoro, 2019). To achieve progress and achieve high standards, it is necessary to actively pursue modernity and excellence. This entails a continual process of expanding and updating concepts and goals, as well as enhancing methods and resources. These institutions are highly motivated to enhance their performance. In order to achieve global advancement across several domains, educational institutions must exert significant efforts to ensure that their faculty and students are equipped with the necessary skills and knowledge to thrive in the digital era, thereby fostering a generation that is adept in contemporary technical competencies (Nikolopoulou, 2020).

The subject of contemporary technologies in education garners significant attention from competent authorities in general, as well as schools in particular. Among these technologies, computers receive the most focus due to their numerous advantages and the educational and material capabilities they offer, which have coincided with their widespread adoption (Pramana, 2018). The computer is employed to support the various components of the educational process by facilitating numerous administrative, routine, and written duties, as well as various organizational responsibilities, hence saving time and effort (Singh & Miah, 2020).

The utilization of computers and digital technology in many formats offers numerous benefits in the management, organization, and implementation of the educational process. There are multiple areas

in which they engage in deception, with one of the most significant being the augmentation of avenues for community involvement within and beyond the educational institution, catering to the needs of parents, students, instructors, and principals alike (Malloy, 2020). Individuals with a vested interest in educational matters, encompassing computers, mobile phones, and information networks, as well as the efficiency and precision of information storage and the establishment of an information repository, are all included in this discussion. The timely processing, utilization, and retrieval of data serve as a significant catalyst for expediting outcomes, facilitating decision-making, and ensuring continuity in the instructional practices employed by educators and learners alike (Mfaume, 2019).

Educational technologies utilizing smartphones, commonly referred to as mobile learning, offer an alternative approach to education, granting learners autonomy in selecting their desired subjects, determining their preferred learning sources, and accessing educational materials at their convenience (Miller, 2018). Mobile learning, also referred to as m-learning, encompasses the provision of educational opportunities through the utilization of compact wireless devices, including but not limited to mobile phones, digital assistants, and smart phones, hence enabling learning to occur at any given time and location (Wang et al., 2023). This form of education offers opportunities for mobility across multiple domains, including physical spaces beyond the confines of traditional classrooms, technical spaces facilitated by devices and equipment, conceptual or cognitive spaces accessed through Internet networks, and social spaces through communication with peers and diverse communication networks (Ahmed et al., 2020).

The prevalence of cell phones in individuals' lives and their significant role in capturing their attention has prompted the education sector to explore ways to effectively utilize these devices and leverage their potential advantages for the benefit of educational administration, teachers, and learners (Amez & Baert, 2020). Research has demonstrated the imperative of adequately training educators and equipping them with the necessary competencies to effectively handle contemporary data. Furthermore, scholars have emphasized the significance of incorporating technological advancements and allocating resources towards educational endeavors. Additionally, it has been underscored that educators should possess a comprehensive understanding of e-learning technology and its diverse applications (Chang et al., 2019).

The integration of mobile phones into the educational process and the utilization of their services in this

domain contribute to its advancement, thereby emphasizing the significance of adopting smartphone applications as a contemporary technological tool. Furthermore, it urges decision-makers in higher education institutions to conduct a strategic evaluation (Hadad et al., 2020). In order to effectively implement mobile device technologies and their applications in educational settings, it is imperative to develop carefully considered strategies that promote awareness and understanding among students. This is particularly important as students exhibit a greater inclination towards utilizing their personal smartphones as opposed to carrying traditional course books. The preference for smartphone applications in the learning process is driven by the enhanced clarity and user-friendly nature that these applications offer (Heo & Lee, 2018).

The increasing demand for distance education in several nations presents educational institutions with significant obstacles in selecting suitable procedures and technology to effectively manage the contemporary educational process and accomplish their objectives optimally and effectively (Lin et al., 2021). These institutions aim to employ technology that exhibits qualities of adaptability and interactivity, hence yielding advantages and facilitating their ability to stay abreast of advancements. The administration should consider the implications of the information age and globalization, and adapt accordingly to harness their beneficial aspects. Additionally, it is imperative to continuously enhance the competencies of administrators and educators to align with technological advancements (Park, 2020).

Upon conducting a thorough examination of the available literature, it was observed that there is a dearth of study that specifically investigates the utilization of smartphone applications for educational management. Hence, it is imperative to undertake research in order to determine the extent to which smartphone applications are utilized for instructional management in schools within the Zarqa Governorate, as perceived by instructors.

### Research Questions

The focus of this research is to answer the questions posed below.

1. What is the degree of use of smart phone applications in managing the educational process in schools in the Zarqa Governorate from the point of view of teachers?
2. Are there statistically significant differences in the degree of employing smartphone applications in managing the educational process due to the variable of gender and level of qualification?

### LITERATURE REVIEW

The contemporary period is distinguished by the extensive utilization of sophisticated methods and technologies, including computers, the Internet, networks, and mobile phones, as various institutions endeavor to transition from their conventional structure to a digital one (Peng et al., 2022). The individuals in question employ various technologies to execute and oversee their work, enabling them to efficiently and effortlessly complete several duties. Furthermore, they engage in continuous communication with both clients and colleagues, unhindered by temporal or spatial limitations (Troll et al., 2021). The adoption of information technologies for administrative tasks in institutions did not emerge spontaneously, but rather as a consequence of their numerous advantages and features. These include streamlining job procedures, facilitating service provision, reducing time requirements, ensuring accuracy and objectivity, and enabling seamless communication and collaboration among individuals and groups (Ifeanyi & Chukwuere, 2018).

Educational institutions are diligently striving to align themselves with the advancements in digital and technology domains (Alfailakawi & Al-Anzi, 2022). An effective school administration is characterized by its utilization of contemporary technologies in the execution of administrative tasks across various domains, including student enrollment, communication with parents, streamlining administrative processes, and alleviating repetitive and clerical duties. Technologies and communication methods also facilitate the school's engagement with the local community, so contributing to its instructional objectives (Al-Hamad et al., 2020).

The rapid advancements in communication and information technologies, coupled with the widespread adoption of various technological tools among students in universities and schools, have given rise to novel educational methods (Mohammadi et al., 2020). The evolution of educational tools initially involved computer-based methods, but has since expanded to incorporate wireless and mobile communication technology. This progression has facilitated the emergence of novel learning paradigms, including mobile learning (Alzatma & Khader, 2020).

Smartphones are often regarded as the foremost prevalent and favored mobile communication technology, extensively employed in contemporary educational and entertainment settings, and embraced by individuals across many societal strata, irrespective of their cultural, economic, or social backgrounds (Tbakhi, 2020). The company possesses the ability to deliver high-

quality services by means of their wide range of apps that are specifically intended to cater to the needs of their consumers, irrespective of their objectives. Smartphones and their applications have significantly enhanced the efficiency and convenience of daily work tasks. Their effectiveness is further amplified by their ability to adapt to the fast-paced nature of technological advancements (Al-Adwan et al., 2018). The extensive reliance on digital technology has prompted the integration of these applications into educational management, thereby enriching the educational process and introducing novel approaches to work. To streamline this process, it is imperative to have a comprehensive understanding of these applications. This paper explores the different types and categories of smart applications, with a particular focus on their advantages in educational process management (Al-Huneini et al., 2020).

Chuchu et al. (2019) provided a definition for smartphone applications, stating that they are software programs specifically created to function on mobile devices, such as smartphones or tablets. These applications are placed on the mobile device's operating system and are able to operate immediately upon installation. The system exhibits certain characteristics and possesses capabilities that are similar to those of the device. According to Nikolopoulou (2020), they presented a concise explanation of smartphone applications as a component of a software program that offers similar functionalities to the mobile device as the original program does to the computer.

Smartphone applications can be classified into three primary categories, encompassing several applications within each category. These categories are referred to as "native applications," which are developed specifically for a particular operating system. Various applications depend on specific operating systems for their functionality. For instance, certain applications are designed exclusively for the "Android" or "iOS" operating systems (Pramana, 2018). Additionally, there are "Web applications" that can be accessed either through a web browser or a dedicated application. Lastly, hybrid applications are capable of functioning across multiple operating systems without necessitating reprogramming efforts to accommodate each system. In addition to the aforementioned categories, cloud applications refer to software programs that facilitate access to a collection of publicly available services on the Internet, providing users with a secure and user-friendly experience (Singh et al., 2020).

There exists a collection of applications that have been purposefully developed to offer educational

services and support to both students and teachers. These applications include Evernote, which facilitates the composition of notes and the storage of documents; Student Buddy, which aids in the organization of study assignments, submission deadlines, and lectures; Plickers, which serves as a tool for assessing students' knowledge; and Prezi, which assists in the delivery of lesson slides in a unique manner (Malloy, 2020). Additionally, there are applications tailored for certain schools and educational institutions, designed to provide mobile learning opportunities and foster effective communication between educators and students. Also, there exists a category of smartphone applications that have been developed and designed specifically for the purpose of school management and administration. Examples of such applications include MySchool and SmartSchool, which offer a range of services including student statistics, absence tracking, and the ability to send and receive electronic records and student notes (Mfaume, 2019). The purpose of this review is to assess the study and examination schedules, as well as to provide information regarding the instructors and their instructional materials. Additionally, it offers the opportunity to communicate with the instructors, inquire about payment details, and determine the outstanding payments (Miller, 2018).

Smartphones offer a range of services that have facilitated the development of mobile applications and enhanced their functionality and capacities. They significantly contributed to the integration of cellphones into the educational-learning paradigm. Numerous educational institutions globally have exhibited a propensity for employing these technologies inside the realm of education. One of the services available is the Short Messaging Services (SMS), which facilitates the transmission of text messages between users (Wang et al., 2023). Another service is the Wireless Application Protocol (WAP), which encompasses a set of global regulations enabling wireless Internet access for users. In addition to their other functionalities, smartphones also offer the capability of packet messaging service. The General Packet Radio Service (GPRS) is a wireless communication technology that enables efficient Internet browsing and data transmission. One can also derive advantages from the utilization of the Bluetooth technology, which facilitates wireless communication and enables the interconnection of devices within designated proximity ranges (Ahmed et al., 2020). The multimedia service, known as MMS, enables users to engage in the exchange of multimedia messages, encompassing various forms of material such as films, drawings, color photos, and audio. On



the basis of what has been discussed thus far, the applications that can be used on smartphones can be summed up as follows: managing the process of teaching, managing the process of evaluating, managing student affairs, and managing personnel affairs (Amez et al., 2020).

The concept of Mobile Learning has gained significant importance in light of the proliferation of smartphones and their associated applications. The subject matter pertains to the acquisition of knowledge and skills, as well as the potential for accessing them via mobile devices regardless of location or time (Chang et al., 2019). It presents an alternative opportunity compared to the conventional model of teacher-led classes. The educational content is disseminated to students through a range of mediums, including written text, visual images, auditory elements, and audiovisual presentations. Moreover, this delivery method enables learners to access the material at their convenience. In order to maintain a continuous contact, the instructor is required to adapt activities and strategies, as well as actively seek out novel approaches and processes (Hadad et al., 2020).

The contemporary iteration of mobile devices presents a diverse array of wireless functionalities, including but not limited to interactive video and audio communication, facilitation of video conferences and seminars, high-speed internet browsing, and the exchange of text messages and emails (Heo et al., 2018). These devices are equipped with applications and programs that offer requisite support, enabling them to assume a significant role in the realm of mobile learning and effectively contribute to educational management. The utilization of mobile devices in educational settings centers around the notion of digital culture, facilitates the assimilation of knowledge, and empowers the student to assume a central role in the educational process (Lin et al., 2021). Furthermore, it amplifies his engagement by means of his regular utilization of self-directed learning, and augments his inclination to engage in communication and seek clarification, since it affords him the autonomy to select an opportune moment. This feature affords him the convenience of regularly updating and refreshing the instructional resources offered. One notable characteristic of this particular mode of education is the extensive range of the learner's peers originating from various global locations (Park, 2020).

Smartphones and their applications possess diverse potential for integration within the educational sphere, serving as valuable tools for both educational managements through multimedia

messaging and instructional delivery (Peng et al., 2022). The provision of contemporary technologies, such as voice recognition technology, enables learners to utilize their voices as a means of inputting information, with the added benefit of having their spoken words automatically transcribed into written texts. The utilization of recording lectures and translating them into texts provides significant advantages in the study of foreign languages. Additionally, it can be beneficial in the context of oral examinations and expedited research endeavors (Troll et al., 2021).

There are numerous and diverse benefits associated with mobile learning and the functionalities provided by smartphone applications. The integration of these technologies into education is often seen as a significant advancement. However, it is important to acknowledge the existence of a range of problems and issues that must be carefully evaluated (Ifeanyi et al., 2018). Despite the significant advancements made by the smart phone business and the development of its diverse applications and advanced functionalities, there are certain limitations that may impede its integration into the educational sphere. The primary obstacle lies in providing adequate training for educators and students, particularly when utilizing specialized applications. Additionally, there is a need to modify curricula and lesson plans to align with the mode of delivery through smartphones, which necessitate frequent battery charging (Alfailakawi et al., 2022). Furthermore, the limited screen size poses a constraint on the display of extensive data. Arguably, one of the most significant challenges is to the susceptibility of these mobile devices to loss or theft, as well as the rapid obsolescence resulting from the dynamic nature of the market for their resale. In addition to these hurdles, there is the issue of printing content when devices are not connected to a network, as well as the occurrence of program crashes due to the compression and transmission of large volumes of data. However, it is possible to identify suitable solutions for these and other obstacles (Al-Hamad et al., 2020).

The educational process is a highly intricate process that necessitates a well-defined framework, solid foundations, and established regulations. It aims to accomplish a range of educational objectives that pertain to both the teacher and the learner. The administration serves as the primary driving force behind this process, overseeing its operations and executing its plans to their fullest extent (Mohammadi et al., 2020). According to Alzatma et al. (2020), the concept of educational process management refers to the overall management of the educational system. It encompasses the

management of organizations responsible for implementing educational processes, including the utilization of human and material resources. The author further elucidates that the terms “educational administration” and “administration of education” are two distinct notions that pertain to the discipline of managing educational institutions. According to Tbakhi (2020), the term refers to a set of executive and technical procedures that are executed through collaborative and cooperative humanitarian efforts. The primary objective of this endeavor is to establish an active and organized intellectual and collective environment, with the aim of surmounting challenges, addressing prevailing issues, and attaining the specific educational objectives of both society and educational institutions. The discipline of public administration draws its nomenclature and operational framework from the field of public administration, while its essence and attributes are shaped by the field of education (Al-Adwan et al., 2018).

The distinguishing factor of educational process management lies in the explicit definition of its objectives, which are pursued through systematic planning and execution of various tasks. The objectives encompass the provision of comprehensive student care and the cultivation of their character through a range of programs and events both within and beyond the school premises (Al-Huneini et al., 2020). This entails the continuous enhancement and adaptation of the curriculum to align with emerging trends, while ensuring its suitability for the students, the school, and the wider community. Additionally, the school is committed to supporting and nurturing teachers by granting them professional autonomy. The individuals in question offer aid and backing in the execution of their designated responsibilities, enhancing the relationship between the educational institution and the broader community by establishing robust connections. Furthermore, they provide a range of resources, encompassing human, material, and even environmental assets (Chuchu et al., 2019).

Administrative work encompasses a set of tasks and procedures sometimes referred to as functions, namely planning, organizing, staffing, directing, communicating, and controlling. The execution of these tasks is carried out by the head of the institution and their assistants, in accordance with the powers and specializations bestowed upon them, with the aim of guiding persons towards the attainment of objectives and overseeing the educational process (Nikolopoulou, 2020). The functions of management in this context bear resemblance to those found in other institutions and organizations. However, there exist notable

distinctions in terms of the specific content and personnel involved (Pramana, 2018).

Educational institutions that aspire to enact tangible and impactful transformations, while being abreast of contemporary advancements, diligently fulfill their roles by leveraging technology. This technological integration endows them with diverse advantages and renders them suitable with the demands of modernity and advancement (Singh et al., 2020). The utilization of smartphone applications in the management of the educational process is a highly efficient method that may fulfill many administrative functions in innovative and advanced manners, thereby embodying the characteristics of contemporary electronic administration, which offers a range of benefits. Furthermore, the integration of technology and information systems in schools not only facilitates the school’s involvement in the ongoing technological and information revolution, but also leads to a reduction in the resources expended on various administrative and technical tasks (Malloy, 2020). Additionally, it expands opportunities for community engagement in the educational process by ensuring that all individuals possess smartphones that enable their active participation. Moreover, the implementation of technology enhances the efficiency and accuracy of administrative data collection, storage, retrieval, and disposal. The implementation of this system effectively streamlines ordinary administrative tasks within educational institutions, hence optimizing the provision of high-quality and efficient educational services to students throughout the academic year (Mfaume, 2019). Furthermore, it significantly mitigates the need for excessive paperwork and alleviates the workload of staff members. In order to facilitate the effective integration of smartphone applications in educational management, it is imperative to consider the incorporation of e-learning components, which pertain to the educational aspects of digital technology. These components play a crucial role in establishing the fundamental principles that underpin the utilization of smartphone application technology (Miller, 2018).

### Previous Studies

Anna (2019) conducted an examination of the ten most often used mobile phone applications that are utilized to facilitate the learning process for students pursuing a library diploma. The objective of this study was to investigate the utilization of mobile phone applications by library diploma students at the Indonesian University of Airlangga in order to enhance their learning experience. The research was carried out on a sample of 132 students, selected from a population of 200 students enrolled

in a library diploma program. The utilization of questionnaires and interviews served as instruments for data collection. The study employed a descriptive and analytical methodology, yielding findings that indicate the prevalence of applications facilitating information sharing among students, fostering collaborative communication, and supporting educational endeavors during lectures. Notably, mobile phone applications were found to exert a substantial influence on education and students.

In a study conducted by Mfaume (2019), the author examined the level of teachers' awareness regarding the educational advantages of the gadget, their utilization of it, and the obstacles they encountered in incorporating it into their educational practices. The research conducted was of a qualitative nature, employing a sample size of twenty-one (21) instructors who were intentionally chosen from three secondary schools. The researchers conducted semi-structured interviews to collect data, which were subsequently subjected to thematic analysis. The results of the study indicate that educators possess a strong understanding of the advantages associated with the use of technology in the classroom, although they demonstrate limited utilization of these tools for instructional objectives. Key impediments that have been identified include a deficiency in knowledge and abilities, a negative attitude, limited awareness of the ICT policy, advanced age, and low desire.

The study conducted by Al-Hamad et al. (2020) examined the utilization of smart devices in the context of teaching and learning within Jordanian universities, focusing specifically on the viewpoints of instructors. A sample of (364) instructors was selected in a random manner. Data was collected using a structured interview method, and the obtained results were analyzed qualitatively. The results obtained from the study indicate that a majority of respondents, specifically 68.1%, expressed opposition against the utilization of technology inside the classroom setting. Conversely, a minority of respondents, comprising 31.9%, expressed a favorable stance towards technology use. Despite a significant proportion expressing opposition to the utilization of technology, the majority of individuals nevertheless engage with technology in some capacity. The most often cited disadvantages included distraction, misuse, and insufficient proficiency. Conversely, instructors were motivated to incorporate technology into the teaching process primarily due to the potential for enhanced interaction and heightened engagement.

The study conducted by Mohammadi et al. (2020) aimed to assess the level of acceptance of Mobile

Learning among faculty members. The chosen research approach employed a concurrent mixed methods design. The research methodology employed in the quantitative component of the study was a descriptive survey, while a phenomenological approach was utilized for the qualitative component. The quantitative component of the study included a study population of both male and female faculty members from technical engineering groups at Shiraz University. The total number of participants in this population was 147. From this population, a subset of 87 individuals was selected using a stratified random selection technique. The qualitative portion of the study involved a subset of the faculty members who had previously participated in the quantitative portion. The participants were recruited using a purposive sampling strategy with criteria procedure. The research instruments utilized in this study comprised a scale for measuring acceptance of mobile learning, which was developed by the researcher. After conducting an assessment of the scale's validity and reliability, it was subsequently administered to the participants. The collection of qualitative data was conducted through semi-structured interviews with faculty members who have prior experience in the field of mobile learning. The findings from the quantitative analysis revealed that, with the exception of the dimension of Usefulness, the faculty members exhibited a higher degree of acceptance towards mobile learning across all sectors. Specifically, the dimension of Usefulness was found to be at a moderate level. In the qualitative analysis phase, the data was integrated and summarized, resulting in the identification of 17 fundamental themes and three overarching themes. These themes encompassed the advantages of mobile learning, the obstacles and constraints associated with mobile learning, and the necessary infrastructure for the successful implementation of mobile learning.

In a study conducted by Nikolopoulou (2020), the author explored the attitudes of Greek secondary school teachers regarding the utilization of mobile phones and tablets in the classroom. The study involved the distribution of a questionnaire with open-ended questions to a sample of 64 teachers from various subject areas. Utilizing a descriptive-analytical approach, the study's findings indicate that the primary advantages associated with the utilization of smart devices pertain to student motivation and activity sharing, the facilitation of engaging interactive lessons, convenient access to information, and the enhancement of students' technological proficiency. Conversely, the identified barriers encompass the insufficiency of equipment and legal restrictions impeding the use of mobile phones. Within the educational institution, the



conduct of pupils and their involvement with electronic gadgets are observed.

In a study conducted by Tbakhi (2020), the author examined the extent to which smartphone applications are utilized in the management of the educational process within schools in Jordan. The researchers employed the descriptive survey methodology. The study's sample comprised a total of 366 teachers, both male and female, who were selected by a random sampling method. These teachers were picked from schools located in the Qweismeh district and the Amman Qasbah in the governorate of Amman, Jordan's capital city. The domains encompassed in this discussion include the pedagogical sector, the realm of smartphone applications designed for evaluation management, the sphere of smartphone applications dedicated to student affairs management, and the domain of smartphone applications focused on personnel affairs management. The study's findings indicated a moderate level of utilization of smartphone applications in the management of the educational process. The findings also indicated that there were no statistically significant disparities in the mean replies of the participants in the study sample based on the gender variable. The findings also indicated that there were statistically significant variations attributed to the academic specialty variable, with a preference observed for the humanitarian specialization. The variable of supervisory authority exhibits statistically significant variations, favoring the private sector.

In their recent study, Alfaiakawi et al. (2022) shed light on the actual use of smart device applications among university students in Kuwait for educational purposes. The primary objective of the research was to examine the influence of two key variables, namely gender and usage rate, on the aforementioned phenomenon. The survey descriptive approach was employed by the researcher in order to accomplish the objectives of the study. The study sample comprised 385 university students who were recruited by a random sampling method. The researcher devised a data collection instrument, comprising 35 paragraphs distributed across three axes, which was subsequently implemented during the second semester of the academic year 2020/2021. The findings of the study indicated that the various dimensions of the study tool exhibited an average level of agreement. Specifically, the use of smart device applications in learning was found to have an average level of focus, as evidenced by a mean score of 2.093. Additionally, the study revealed that the perceived importance of utilizing smart device applications in learning also received an average level of emphasis,

with a mean score of 2.215. The findings indicated that there were no statistically significant disparities observed in the research variables, namely gender and utilization rate.

## METHODOLOGY

The present investigation utilized a descriptive research methodology and quantitative techniques to offer a comprehensive, accurate, and structured depiction of the attributes and information pertaining to the target population under scrutiny. Saunders et al. (2009) assert that the primary objective of descriptive quantitative research is to methodically delineate and elucidate the diverse attributes of the subject or context under investigation. Subsequently, the gathered data is submitted for comprehensive analysis and subsequently displayed.

## Population and Sample

A study was done during the second semester of the academic year 2023, involving a sample of 374 teachers from schools located in the Zarqa Governorate. According to the statistical findings reported by Krejcie and Morgan (1970), a sample size of 191 is deemed adequate for accurately representing a population. The main aim of the study was to conduct a comprehensive survey among teachers in order to guarantee that the sample accurately reflected the broader community. In addition, the primary objective of the study was to gather a substantial amount of data from the participants, while simultaneously minimizing any potential biases that could influence the outcomes (Blumberg et al., 2014). Consequently, a digital distribution strategy was implemented to effectively disseminate the survey, guaranteeing its widespread accessibility among all teachers. A total of 245 questionnaires were identified. According to the findings of Hair et al. (2010), a specific subset of 15 surveys, out of the initial sample size of 245, were excluded from the study due to their high proportion of unanswered questions, exceeding 50%. The study resulted in a collection of 230 questionnaires that were deemed to possess both credibility and validity.

## Research Instrument

In order to accomplish the research objectives, the researcher included a previous study conducted by Tbakhi (2020) to assist in the creation of the questionnaire as the primary research instrument. The survey was divided into two separate portions. The introductory section of the survey collects data regarding the participants' "gender" and "level of qualification." Section 2 comprised a comprehensive compilation of 40 items that were purposefully crafted to assess four various facets of smartphone

applications utilized for educational management. The aforementioned categories encompass the breadth of smartphone applications used for managing the teaching process, as exemplified by items 1-10. They also include smartphone applications utilized for managing the evaluation process, as indicated by items 11-20. Additionally, these categories encompass smartphone applications designed for student affairs management, as demonstrated by items 21-28. Lastly, they encompass smartphone applications intended for employee management, as illustrated by items 29-40.

### Instrument Validity

A cohort including ten educational technology specialists, who are associated with universities in Jordan and possess specialized knowledge in the areas of language development, scientific accuracy,

and clarity, were tasked with the responsibility of evaluating the reliability and validity of the study instrument. According to evaluations conducted by experts, it has been determined that all components have been deemed satisfactory, but with slight linguistic modifications.

### Instrument Reliability

One approach utilized to evaluate the dependability of measurement is evaluating the consistency of results through the use of similar samples and instruments, while keeping all other variables constant. The evaluation of response consistency was carried out using Cronbach's alpha coefficient. According to Saunders et al. (2009), the evaluation of a survey's reliability is contingent upon its credibility, which is considered to be achieved when it reaches or surpasses a minimum threshold of 60%.

Table 1: Cronbach Alpha Test.

Variables	Value
Smartphone applications used for managing the teaching process	0.825
Smartphone applications utilized for managing the evaluation process	0.813
Smartphone applications designed for student affairs management	0.854
Smartphone applications intended for employee management	0.834
Total	0.844

The data shown in Table 1 demonstrate a high degree of coherence in the study, as evidenced by their alignment falling within the range of 0.813 to 0.854. Furthermore, it is imperative to acknowledge that each section of the survey yielded a Cronbach's alpha coefficient exceeding 0.60, indicating a significant degree of dependability. Consequently, no inconsistencies were detected across the different components of the research equipment.

### Data Analysis

In order to comprehensively examine the research questions, the statistical analyses were conducted utilizing the SPSS program. The study employed the independent sample t-test and computed means as part of its methodology. According to Cuevas et al. (2004), the independent sample t-test is proposed as an appropriate statistical technique for the purpose of comparing the means of two distinct groups. This part offers a comprehensive elucidation of the results derived from employing various research methodologies to assess and discuss these findings. Objects are classified as possessing a low grade when their mean score is equal to or less than 2.33. The item's grade is classified as moderate, with the mean score lying within the range of 2.34 to 3.67. The item demonstrates a high level, as shown by a mean score that is equal to or greater than 3.68.

## FINDINGS AND DISCUSSION

Descriptive analysis was utilized to offer a full portrayal of the characteristics of the participants, with particular attention given to their "gender" and "level of qualification." The analysis of the survey data indicated that a substantial segment of the respondents, precisely 67.4%, self-identified as male. In contrast, the data reveals that 32.6% of the respondents self-identified as female, indicating that the male respondents constituted the majority of the sample. In relation to the categorization of participants' level of qualification, it is important to highlight that 73.9% of the respondents obtained an undergraduate degree, while 26.1% obtained a postgraduate degree, as evidenced by the statistical data presented in Table 2.

Table 2: The Respondents Profile.

The Variable	Categories	N	%
Gender	Male	155	67.4
	Female	75	32.6
level of qualification	Undergraduate degree	170	73.9
	Postgraduate degree	60	26.1

To effectively investigate the first research inquiry, it is necessary to calculate the mean and standard deviations of all variables related to the degree of use of smartphone applications in managing the educational process in schools in the Zarqa Governorate from the point of view of teachers.

Table 3. Means and Standard Deviation.

N	Items	Means	St.devs	Results
Smartphone Applications Used for Managing the Teaching Process				
1	Access to scientific sources such as search engines and digital libraries.	4.73	0.41	A
2	Enriching the teaching material with multimedia such as sounds, videos, presentations, etc.	4.38	0.55	A
3	Designing evaluation games and competitions to achieve educational objectives.	4.18	0.62	A
4	Follow up and implement school assignments.	4.36	0.57	A
5	Support teaching strategies.	4.53	0.53	A
6	Building e-learning lessons and modules.	4.48	0.51	A
7	Investing teaching and learning time effectively.	4.63	0.43	A
8	Follow up on the implementation of study plans.	4.68	0.46	A
9	Diagnosing students' weaknesses.	4.55	0.51	A
10	Communicating the school's vision and educational goals	4.58	0.49	A
	Total	4.61	0.32	A
Smartphone Applications Utilized for Managing the Evaluation Process				
11	Conducting school tests electronically.	4.33	0.45	A
12	Correcting school tests electronically.	4.48	0.40	A
13	Preparing a question bank for electronic tests.	4.59	0.37	A
14	Archiving students' grades and averages.	4.39	0.52	A
15	Providing the necessary reinforcement to students.	4.43	0.41	A
16	Evaluating students' performance to improve their achievement levels.	4.69	0.37	A
17	Evaluating the extent to which educational goals have been achieved.	4.28	0.53	A
18	Evaluating the impact of new educational programs on students' cognitive and skill levels.	4.13	0.57	A
19	Evaluating teachers' performance and work.	4.25	0.51	A
20	Follow up on the use of technology and modern methods by teachers.	4.70	0.32	A
	Total	4.41	0.35	A
Smartphone Applications Designed for Student Affairs Management				
21	Monitoring (attendance and absence) of students.	4.68	0.53	A
22	Follow up on students' data (health and social).	4.71	0.49	A
23	Sending and receiving students' attestations and official documents to and from the concerned authorities.	4.45	0.56	A
24	Providing students with class schedules and test schedules.	4.41	0.57	A
25	Continuous communication with parents regarding students' comments.	4.61	0.55	A
26	Sending midterm and final certificates and follow-up reports to parents.	4.35	0.60	A
27	Involving students in school activities and competitions.	4.55	0.54	A
28	Supporting students' various skills and talents	4.51	0.53	A
	Total	4.42	0.34	A
Smartphone Applications Intended for Employee Management				
29	Providing employees with the school calendar, quarterly and annual plans and schedules.	4.71	0.51	A
30	Exchanging electronic messages, circulars, and administrative files.	4.73	0.46	A
31	Preparing work reports.	4.48	0.53	A
32	Holding (meetings and individual meetings) with employees.	4.44	0.55	A
33	Providing the necessary technical support for workers to perform their work.	4.64	0.53	A
34	Training employees on the necessary programs and applications.	4.38	0.57	A
35	Developing development plans for employees' performance.	4.58	0.51	A
36	Providing workers with feedback on their performance of various tasks.	4.54	0.52	A
37	Facilitating staff communication with students' parents.	4.75	0.45	A
38	Raising the efficiency of workers in using technology.	4.74	0.46	A
39	Providing educational resources and new programs for employees.	4.50	0.55	A
40	Exchange of experiences between employees.	4.45	0.54	A
	Total	4.54	0.31	A
	All instrument	4.50	0.32	A

Based on the information shown in Table 3, the mean score for the extent to which teachers in the Zarqa Governorate's schools use smartphone applications to oversee instruction was found to be 4.50, with a standard deviation of 0.32. This outcome could be explained by teachers' increased understanding of how to take advantage of smartphones and their applications to manage the learning process in all its facets, as well as how to help them use them more effectively and the skills required to use these time- and effort-saving tools. and enhancing the quality of educational services while undertaking this extensive growth. It is noteworthy that the global conditions brought about by the Corona pandemic have rendered smartphone applications an answer to numerous technological predicaments schools face when it

comes to student education. This could account for the widespread use of smartphone applications in the areas of teaching and evaluation management. The high usage of smartphone applications in the areas of managing staff and student issues may be attributed to the clear strategy for utilizing them and taking advantage of their sophisticated capabilities in all aspects of school administration. This result aligns with the studies conducted by Anna (2019), Al-Hamad et al. (2020); Mfaume (2019); Mohammadi et al. (2020); Nikolopoulou (2020); Tbakhi (2020) and Alfaiakawi et al. (2022).

While the role of the Smartphone applications used for managing the teaching process was determined to be 4.61, accompanied by a standard deviation of 0.32. The item labeled "Access to scientific sources

such as search engines and digital libraries” (item 1) exhibits the highest mean value among all the elements pertaining to managing the teaching process, with a score of 4.73. The item 3 mean score, which corresponds to “Designing evaluation games and competitions to achieve educational objectives”, exhibits the lowest value among all items, measuring at 4.18. This is explained by the significance of assigning and completing homework, as well as teachers’ interest in it as it is a cornerstone of education. The availability of special applications that offer research services, digital libraries, and applications that enhance the teaching process with images, videos, and presentations may make teachers’ interest in using smartphones in the classroom strong. These mechanisms, which make it easier for students to complete assignments and submit them, as well as for teachers to receive and follow up on them, may also serve as a good incentive for students to use smartphones frequently. In addition to the fact that all teachers are familiar with this kind of application, the fact that it is not widely used—particularly when evaluating students’ weak points through assessments of some of their foundational knowledge—and the fact that there is a continuing preference for traditional methods when completing tasks of this nature, there is a need for applications that have a variety of ideas and can judge a student’s performance level. This result aligns with the studies conducted by Anna (2019) Al-Hamad et al. (2020); Mfaume (2019) and Tbakhi (2020).

Moreover, Table 3 exhibits a mean value of 4.41 and a standard deviation of 0.35 for the domain of managing the evaluation process. The item that demonstrates the highest average value is item 16, which is related to “Evaluating students’ performance to improve their achievement levels.” The aforementioned item obtained a score of 4.69. The item labeled 18, which addresses “Evaluating the impact of new educational programs on students’ cognitive and skill levels”, demonstrated the lowest mean score (4.13) compared to all other items. One possible explanation for this phenomenon can be ascribed to the desire to streamline and simplify the testing process for educational institutions and their instructors through the utilization of electronic applications. This approach offers advantages such as time and effort savings, as well as enhanced accuracy and efficiency in the correction, monitoring, and tallying of assessments. Additionally, the evaluation process encompasses various forms and necessitates diligent oversight and adequate attention from the administration. Consequently, the adoption of electronic testing methods presents a viable solution to address these multifaceted requirements. There are several applications available that facilitate

the administration of tests, offer a diverse range of questions, and closely resemble traditional classroom assessments. These applications enable the creation of tests featuring both essay and objective questions, prompting school principals to provide guidelines on their utilization. This result aligns with the studies conducted by Mohammadi et al. (2020); Nikolopoulou (2020), and Tbakhi (2020).

Furthermore, the data provided in Table 3 illustrates that student affairs management has a mean value of 4.42 and a standard deviation of 0.34. One of the components encompassed by the construct of student affairs management that demonstrates the most elevated average score is item 22. This particular item asserts “Follow up on students’ data (health and social)”, and it has received a mean score of 4.71. Among all the questions, Item 26, which pertains to “Sending midterm and final certificates and follow-up reports to parents”, received the lowest mean score of 4.35. The rationale behind this phenomenon can be ascribed to the school administration’s commitment to student affairs, encompassing the provision of essential information and effective communication. The administration demonstrates a strong emphasis on fostering trust with students and their parents, thereby making concerted efforts to disseminate up-to-date information and significant dates. Smartphone applications have the potential to effectively facilitate and augment these educational offerings, thereby assisting individuals in their ongoing learning endeavors. Smartphone applications offer and facilitate many functionalities such as reminder messages, and alert notifications, as well as the ability to send and receive data in diverse formats. This result aligns with the studies conducted by Tbakhi (2020) and Alfaiakawi et al. (2022).

lastly, the data provided in Table 3 illustrates that employee management has a mean value of 4.54 and a standard deviation of 0.31. One of the components encompassed by the construct of employee management that demonstrates the most elevated average score is item 37. This particular item asserts “Facilitating staff communication with students’ parents”, and it has received a mean score of 4.75. Among all the questions, Item 34, which pertains to “Training employees on the necessary programs and applications”, received the lowest mean score of 4.38. The rationale for this phenomenon can be ascribed to the resemblance between administrative tasks and the functionalities of prevalent smartphone applications, which revolve around the exchange of messages, images, and diverse file formats. This enhances the potential for utilizing these applications in educational contexts that rely on communication and have similarities with their primary functionalities. Undoubtedly,



applications are often regarded as the most efficient and expeditious means of conveying messages, disseminating circulars, and retrieving administrative files that necessitate regular and occasionally time-sensitive evaluation. Applications, due to their functionalities, serve as compact workspaces that enable users to explore, transfer, and modify files. Consequently, it is a prudent decision for educators to utilize these applications, as it aligns with the

school's administrative objectives. This result aligns with the study conducted by Tbakhi (2020).

The study utilized an independent sample t-test to assess the statistical effectiveness of the degree of use of smartphone applications in managing the educational process in schools in the Zarqa Governorate from the point of view of teachers based on the factors of gender and level of qualification, addressing the second research question.

Table 4: Independent Samples T- test.

Variables	N	Mean	St.dev	df	t	Sig
Female	75	4.12	0.43	228	1.005	0.081
Male	155	4.17	0.36			
Undergraduate degree	170	4.15	0.37	228	1.010	0.072
Postgraduate degree	60	4.10	0.40			

Based on the data shown in Table 4, it is evident that the average score for male respondents on the extent of utilizing smartphone applications in educational management within schools in the Zarqa Governorate, as perceived by instructors, was 4.17. Conversely, the average score for female respondents was slightly lower at 4.12. In addition, the chart displays the average score for the extent of smartphone application usage in educational management across schools in the Zarqa Governorate, as perceived by teachers holding an undergraduate degree, as 4.15. Conversely, teachers with a postgraduate degree reported a mean score of 4.10. The statistical significance (Sig) values of 0.081 and 0.0672, obtained from comparing two groups based on gender and level of qualification respectively, indicate that neither gender nor level of qualification had a significant influence on the extent of smartphone application usage in educational management among teachers in schools located in the Zarqa Governorate. The findings of this study are incongruent with the research carried out by Tbakhi (2020).

## CONCLUSION

The main objective of this research study was to investigate the extent to which instructors in the Zarqa Governorate utilize smartphone applications for educational management purposes. The findings of the study indicate that the utilization of smartphone applications has been shown to yield beneficial outcomes in the management of the educational process within schools located in the Zarqa Governorate, as perceived by instructors. The researcher posits that the observed outcome is rational and can be ascribed to teachers' enhanced comprehension of leveraging smartphones and their applications to effectively manage the learning

process in its entirety. Additionally, teachers have acquired the necessary skills to utilize these time- and effort-saving tools, thereby augmenting the quality of educational services during this substantial expansion. The current global circumstances resulting from the COVID-19 epidemic have led to smartphone applications becoming a viable solution for addressing many technology challenges encountered by schools in the realm of student education. The prevalent utilization of smartphone applications in the domains of educational instruction and assessment administration may be attributed to this phenomenon. The prevalence of smartphone applications in the domains of staff and student management can be ascribed to the deliberate approach in leveraging their advanced functionalities for comprehensive school administration.

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